

TUCSON INTERNATIONAL AIRPORT AREA SUPERFUND SITE
Tucson, Arizona

EXPLANATION OF SIGNIFICANT DIFFERENCES

to September 1997 Record of Decision: Airport Property - Soils and Shallow Groundwater Zone; Burr-Brown Property - Soils; Former West-Cap Property - Soils.

April 2001

I. INTRODUCTION

In September 1997, the United States Environmental Protection Agency ("EPA") issued a Record of Decision ("ROD") addressing contamination at three separate properties within the Tucson International Airport Area Superfund Site in Tucson, Arizona ("TIAA Site"). Specifically, the 1997 ROD addresses soils and shallow groundwater at the Tucson International Airport Property ("Airport Property"), soils at the former Burr-Brown Corporation (now Texas Instruments, Inc.) Property ("Texas Instruments Property"), and soils at the former West-Cap Arizona property ("former West-Cap Property"). These three properties are referred to herein as the ROD Site.

EPA is issuing this Explanation of Significant Differences ("ESD") to provide notice of modifications to the 1997 ROD, which do not fundamentally affect the selected remedy. The purpose of the ESD is to amend the Applicable or Relevant and Appropriate Requirement ("ARAR") for remediation of soils contaminated with poly-chlorinated biphenyls ("PCBs") to be consistent with December 1997 changes to Arizona law. Accordingly, EPA is issuing this ESD for the 1997 ROD in consideration of these changes in Arizona soil remediation standards, which became effective after EPA published the 1997 ROD.

Additionally, EPA will consider beneficial reuse of remediated waters at the Site in appropriate circumstances. The 1997 ROD establishes that the method of discharge for remediated groundwater at the Site will be determined during the remedial design phase. However, Section 10.4.4 of the 1997 ROD limits the discharge options to discharges through injection wells, reinjection trenches, a sanitary sewer, industrial reuse or the United States Air Force Plant 44 injection system, with a stated preference for the injection methods. To clarify the specific discharge methods with regard to beneficial reuse of remediated water, EPA is including in this ESD authorization for the final remedial design to incorporate beneficial reuse of remediated water for landscape irrigation or ornamentation. EPA intends that all other requirements of the 1997 ROD remain intact and unchanged. Unless specifically modified or included in the ESD, the ARARs stated in the 1997 ROD will continue to be the effective ARARs for the remediation at the Site.

This ESD and any significant comments regarding this ESD will become part of the Administrative Record for the 1997 ROD. Copies of the Administrative Record are available for review at the following two locations:

TCE Superfund Information Library
El Pueblo Neighborhood Center, Building B-2
101 W. Irvington
Tucson, Arizona 85714
(520) 889-9194
(520) 741-8818 fax

EPA Region 9 Superfund Records Center
95 Hawthorne Street - Suite 403S
San Francisco, California 94105
(415) 536-2000

If additional information becomes available, EPA will revise the Administrative Record to reflect such material.

II BACKGROUND

The following provides a brief background of the ROD Site and the 1997 ROD.

Additional background information can be found in the 1997 ROD and its Administrative Record.

A. Site Background and Description

The TIAA Site is located on the south side of Tucson, Arizona. Figure 1 provides a map indicating the approximate boundaries of the TIAA Site. The current land uses on and near the TIAA Site are commercial, industrial and residential. The three properties comprising the ROD Site are depicted in Figure 2. The Airport Property includes all Tucson Airport properties that were owned by, leased to, or otherwise operated or controlled by the Tucson Airport Authority or its predecessors, any areas onto or into which contaminants from such property may have come to be located, and any other areas necessary for the response action, but specifically excluding the area operated by the Arizona Air National Guard. The other two properties included in the ROD Site are located adjacent to the northeast portion of the Airport property. The Texas Instruments Property is located at 6730 South Tucson Boulevard and the former West-Cap Property is located at 2207 East Elvira Road.

In 1982, EPA proposed including the TIAA Site on the National Priorities List, a list of federally designated significant hazardous waste sites, in response to the identification of organic chemicals in the groundwater in southwest Tucson. EPA worked with current and previous

owners and operators at the Site, and through a series of RODs, initiated remediation of regions of the ground water at the Site. The 1997 ROD anticipates the final phase of remediation at the Site, addressing soil and shallow ground water contamination.

B. PCB Remediation Standards in the 1997 ROD

The soils at the ROD Site contained levels of PCBs in excess of state and federal standards. The 1997 ROD includes Arizona Administrative Code §R18-7-201 et seq. as an ARAR for the TIAA Site. This ARAR requires that PCB contaminated soils and sludges with concentrations above 0.18 mg/kg in residential areas and above 0.76 mg/kg in non-residential areas be excavated for off-site disposal. Based on this standard, the scope of work in the anticipated remedial design and remedial action would include excavation of all PCB contaminated soils exceeding these levels with respect to the surrounding land use.

C. Beneficial Reuse of Remediated Groundwater

Although the 1997 ROD selects a remedy structure for the TIAA Site, it does not select a method for discharge of remediated ground water. It postpones consideration of the appropriate method until the remedial design phase. However, Section 10.4.4. of the 1997 ROD does limit the discharge options to the following methods:

- Injection wells
- Reinjection trenches
- Sanitary sewer
- Industrial reuse; and
- Discharge to U.S. Air Force Plant 44 (for injection into the existing injection system).

EPA does not believe that the language of the 1997 ROD specifically precludes the beneficial reuse of limited quantities of remediated ground water for landscape irrigation or ornamentation. To be clear, however, and to the extent that beneficial reuse of remediated ground water is a significant difference in the selected remedy, EPA is including limited beneficial reuse of remediated ground water for landscape irrigation or ornamentation as a discharge method subject to review and approval in the remedial design for the TIAA Site.

III. DESCRIPTION OF ESD

As stated above, this ESD includes two modifications to the 1997 ROD. These modifications, the revised ARAR for PCB remediation levels and the beneficial reuse of remediated ground water, are discussed below.

A. PCB Remediation Standards

This ESD modifies the ARARs stated in the 1997 ROD to reflect changes in the applicable provisions of the Arizona Administrative Code regarding PCB soil remediation levels. Effective December 4, 1997, after EPA published the 1997 ROD, the Arizona Department of Environmental Quality amended A.A.C. §R18-7-201 et seq., which is attached hereto and incorporated by reference as Exhibit A. The amended Arizona provisions state revised numerical standards for PCB contamination in residential and non-residential areas based on exposure risks. Although the revised standards are numerically higher than the standards incorporated into the 1997 ROD, the revised standards are sufficiently protective of human health and the environment.

Specifically, A.A.C. §R18-7-205 authorizes a responsible party to remediate soil contamination to the residential or non-residential Soil Remediation Levels ("SRL") set forth in

Appendix A to A.A.C. §R18-7-201 et seq. As set forth in that Appendix A, the SRL for PCBs is 2.5 mg/kg for residential property and 13.0 mg/kg for non-residential property. Remedial action at the Site must include the excavation of soils exceeding SRLs. The revised SRLs are an increase from the previous standard of 0.18 mg/kg in residential areas and 0.76 mg/kg in non-residential areas. EPA anticipates that, based on the revised SRLs, the TIAA Site will require excavation of 2,500 cubic yards of soil, whereas based on the former SRLs, the TIAA Site would have required the excavation of 8,300 cubic yards. This change in the performance or scope of the remedy is not a fundamental change because the revised SRLs are based on calculated exposure risks and standards that are sufficiently protective of human health and the environment. The reduced need for excavation will result in a cost savings of approximately seven hundred thousand dollars (\$700,000.00). The difference in cost realized by this change is only a small fraction of the total expended and anticipated remediation costs for the Site. Therefore, the change in cost is not a fundamental change, and does not require an amendment to the 1997 ROD.

All other requirements and standards listed as an ARAR in the 1997 ROD will remain effective, including Parts 702-775 of Title 40 of the Code of Federal Regulations, which prescribe federal standards for the remediation and disposal of PCB contaminated material based on the specific levels of contamination.

B. Beneficial Reuse of Remediated Groundwater

This ESD allows the remedial design for the TIAA Site to consider beneficial reuse of remediated ground water by use for landscape irrigation or ornamentation. After treatment under the selected remedy in the 1997 ROD, the remediated ground water at the TIAA Site should be

suitable for drinking; however, use of the water for drinking is not a discharge option in the 1997 ROD. Nonetheless, appropriate reuse of remediated ground water for landscape irrigation or ornamentation could provide a means to beneficially reuse the ground water. Unused irrigation water may percolate back to the ground water aquifer, and in that sense, the reuse discharge option is not inconsistent with the preferred discharge methods of reinjection. The Arizona hazardous waste regulations implementing RCRA will be ARARs to these new disposal options. Any proposal for beneficial reuse of remediated ground water must address and satisfy these ARARs.

Furthermore, the Airport Property is located in an arid climate, and water resources for other uses by the community are valuable. Therefore, because reuse of the remediated ground water for landscape irrigation or ornamentation is not inconsistent with the preferred discharge methods, and because it provides other significant benefits to the Airport Property and the community, EPA will accept beneficial reuse discharge options for consideration and review in the remedial design for the Site.

IV. SUPPORT AGENCY COMMENTS

As required by 40 C.F.R. §300.515(h)(3), EPA has provided the State of Arizona Department of Environmental Quality and Department of Water Resources an opportunity to review and comment on these changes to the 1997 ROD. These agencies support EPA issuing this ESD.

V. STATUTORY DETERMINATIONS

This ESD modifies the soil remediation levels for PCB contaminated soils at the TIAA Site. The modified remediation levels may result in less contaminated soil excavation and

disposal. Therefore, this change affects the scope and performance of the remedy and is significant. Because the modified remediation levels are sufficiently protective of human health and the environment and do not otherwise affect the selected remedy, the change is not fundamental. This ESD also expressly authorizes beneficial reuse options for review and consideration in the remedial design as a method to discharge remediated ground water. However, the selected remedy in the 1997 ROD remains otherwise unchanged, and will continue to be protective of human health and the environment. The remedy will continue to be cost effective. This ESD does not fundamentally alter the remedy selected in the ROD with respect to scope, performance or cost.

VI. PUBLIC PARTICIPATION ACTIVITIES

Pursuant to 40 C.F.R. §300.435(c)(2)(i), a formal public comment period is not required for an ESD to a ROD when the difference does not fundamentally alter the remedy selected in the ROD with respect to scope, performance or cost. This ESD does not propose a fundamental change to the remedy in the 1997 ROD with respect to scope, performance or cost, and therefore, no formal public comment period is required. EPA has made this ESD and supporting information available to the public through the Administrative Record and information repository for the TIAA Site. Additionally, EPA has published in the Arizona Daily Star and the Tucson Citizen a notice that briefly summarizes the ESD, including the reasons for such differences, and that announces its availability for review.

Keith Takata —
Keith Takata, Director
Superfund Director, EPA Region 9

5-4-01
Date

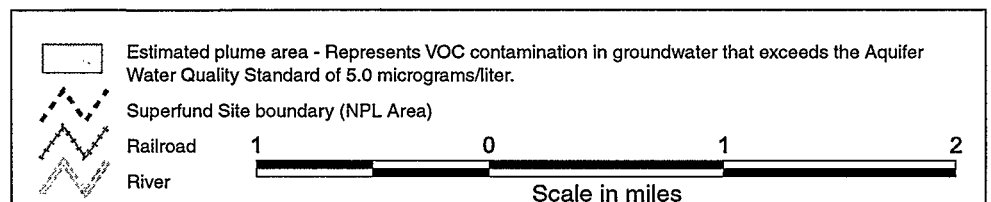
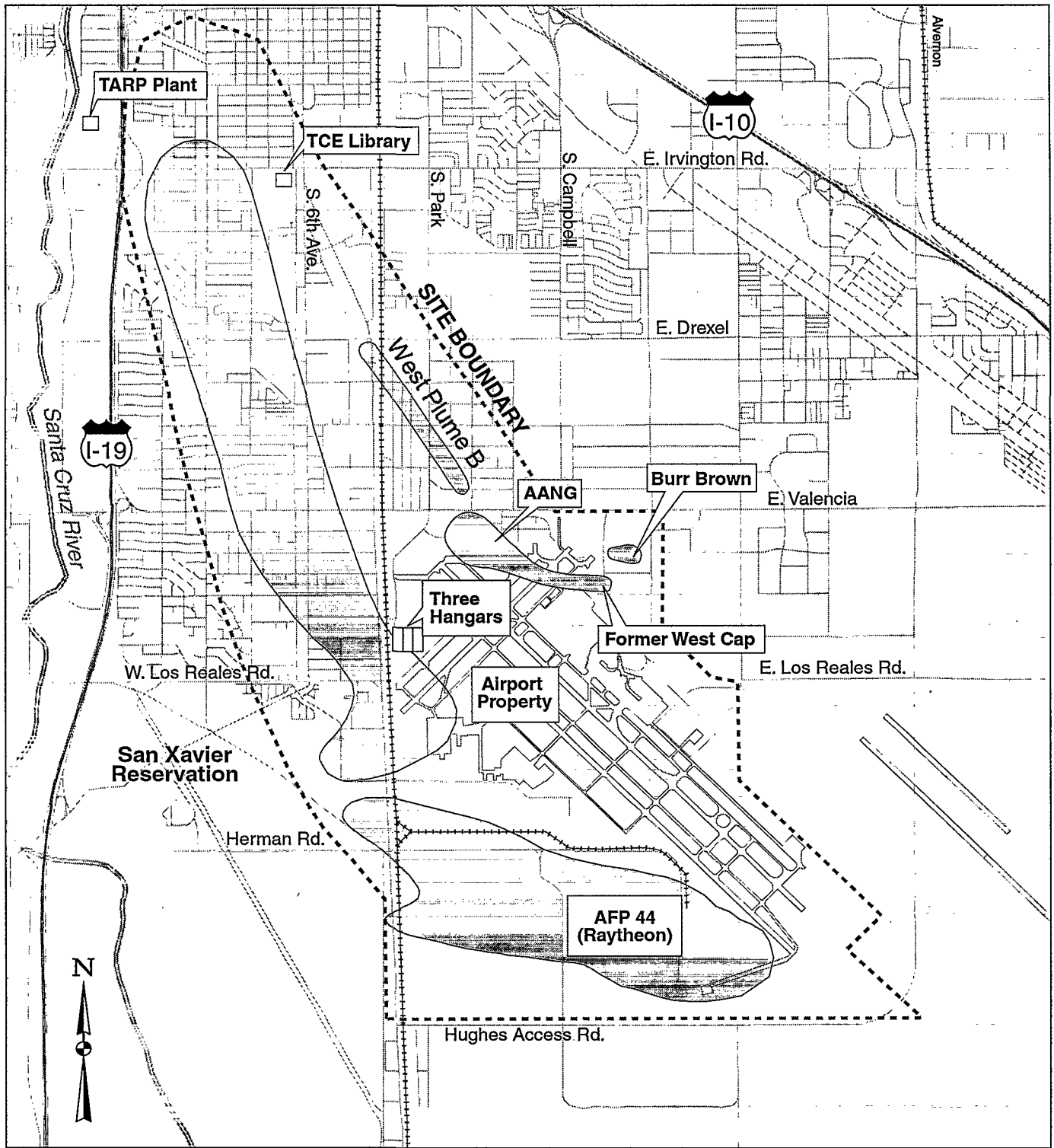


Figure 1
Tucson International Airport Area Superfund Site

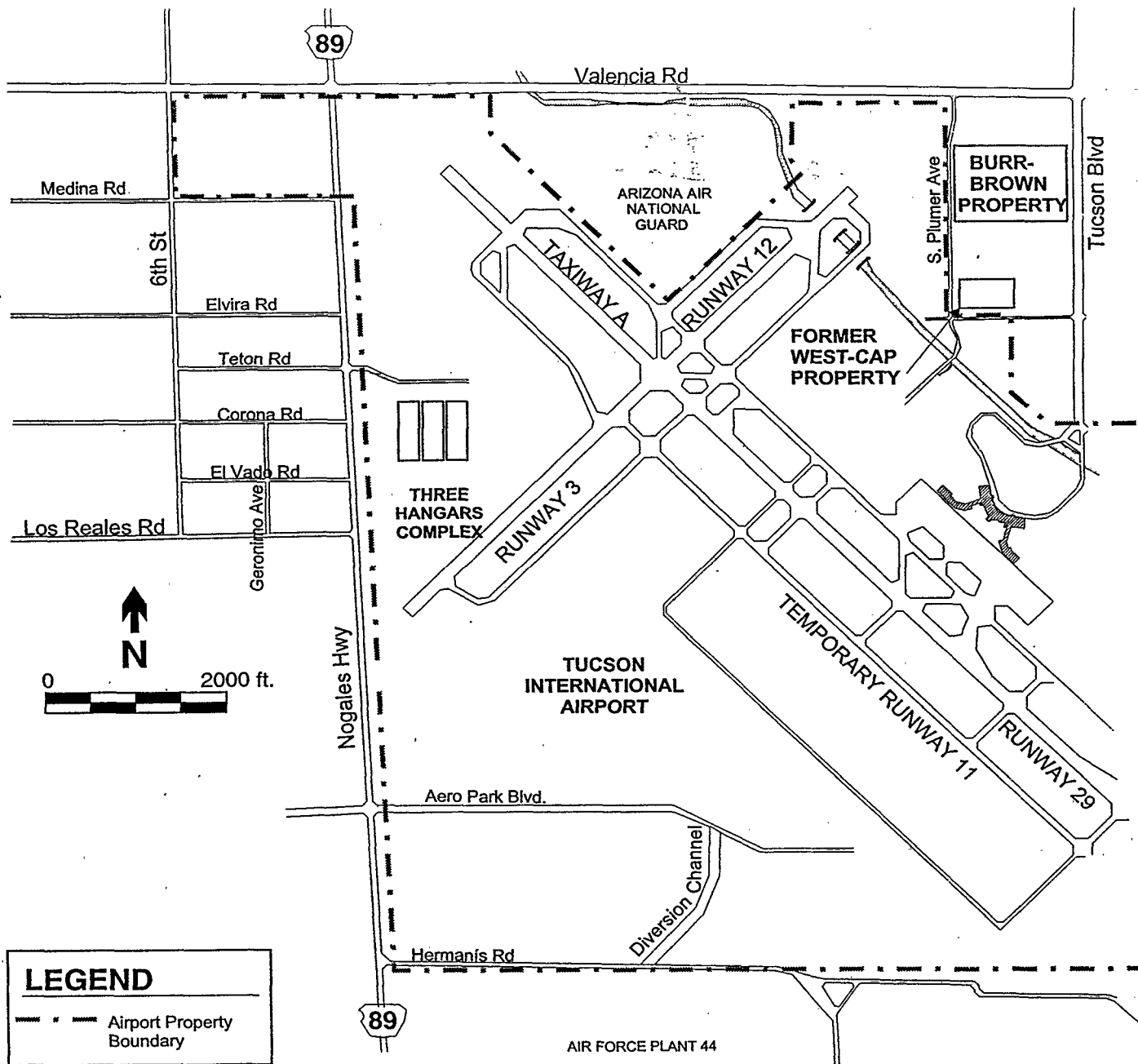


Figure 2
Three Properties Addressed By This ROD
 TIAA Site Record of Decision

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-201. Definitions

In addition to the definitions provided in A.R.S. §§ 49-151 and 49-152, the following definitions apply in this Article:

1. "Aquifer Protection Program" means the system of requirements prescribed in A.R.S. Title 49, Chapter 2, Article 3 and A.A.C. Title 18, Chapter 9, Article 1.
2. "Background" means a concentration of a naturally occurring contaminant in soils.
3. "Cancer Group" means a category of chemicals listed by a weight-of-evidence assessment by the United States Environmental Protection Agency to evaluate human carcinogenicity. Based on this evaluation, chemicals are placed in 1 of the following categories: A--known human carcinogen; B1 or B2--probable human carcinogen; C--possible human carcinogen; D--not classified as to human carcinogenicity; and E--evidence of non-carcinogenicity in humans.
4. "Carcinogen" or "carcinogenic" means a contaminant which has a cancer group designation of Class A, B1, B2, or C, but does not include a substance having cancer group designations D or E. The cancer group designation is found in Appendix A to the rule.
5. "Contact" means exposure to a contaminant through ingestion, inhalation, or dermal absorption.
6. "Contaminant" means a substance regulated by the programs listed in R18-7-202 (A) or R18-7-202 (B).
7. "Department" means the Arizona Department of Environmental Quality.
8. "Deterministic Risk Assessment Methodology" means a site-specific human health risk assessment, performed using a specific set of input variables, exposure assumptions, and toxicity criteria, represented by point estimates for each receptor evaluated, which results in a point estimate of risk.
9. "Ecological Community" means an assemblage of populations of different species within a specified location in space and time.
10. "Ecological Receptor" means a specific ecological community, population, or individual organism, protected by federal or state laws and regulations, or a local population which provides an important natural or economic resource, function, and value.
11. "Ecological Risk Assessment" is a scientific evaluation of the probability of an adverse effect to ecological receptors from exposure to specific types and concentrations of contaminants. An ecological risk

assessment contains 4 components: identification of potential contaminants; an exposure assessment; a toxicity assessment; and a risk characterization.

12. "Engineering Control" means a remediation method used to prevent or minimize exposure to contaminants, and includes technologies that reduce the mobility or migration of contaminants.

13. "Excess Lifetime Cancer Risk" means the increased risk of developing cancer above the background cancer occurrence levels due to exposure to contaminants.

14. "Exposure" means contact between contaminants and organisms.

15. "Exposure Pathway" means the course a contaminant takes from a source to an exposed organism. Each exposure pathway includes a source or release from a source, an exposure point, and an exposure route. If the exposure point differs from the source, transport/exposure media (that is, air, water) are also included.

16. "Exposure Point" means a location of potential contact between a contaminant and an organism.

17. "Exposure Route" means the way a contaminant comes into contact with an organism (that is, by ingestion, inhalation, or dermal contact).

18. "Greenfields Pilot Program" means the system of requirements prescribed in Laws 1997, Ch. 296, § 11.

19. "Groundwater" means water in an aquifer as defined in A.R.S. § 49-201(2).

20. "Hazard Index" means the sum of hazard quotients for multiple substances and/or multiple exposure pathways, or the sum of hazard quotients for chemicals acting by a similar mechanism and/or having the same target organ.

21. "Hazardous Waste Management Program" means the system of requirements prescribed in A.R.S. Title 49, Ch. 5, Article 2 and 18 A.A.C. 8, Article 2.

22. "Hazard Quotient" means the value which quantifies non-carcinogenic risk for 1 chemical for 1 receptor population for 1 exposure pathway over a specified exposure period. The hazard quotient is equal to the ratio of a chemical-specific intake to the reference dose.

23. "Imminent and substantial endangerment to the public health or the environment" has the meaning found in A.R.S. § 49-282.02(C)(1).

24. "Institutional control" means a legal or administrative tool or action taken to reduce the potential for exposure to contaminants.

25. "Letter of Completion" means a Departmental statement which indicates whether the property in question has met the soil remediation standards set forth in this Article.

26. "Migrate" or "Migration" means the movement of contaminants from the point of release, emission, discharge, or spillage: through the soil profile; by volatilization from soil to air and subsequent dispersion to air; and by

water, wind, or other mechanisms.

27. "Non-Residential Site-Specific Remediation Level" means a level of contaminants remaining in soil after remediation which results in a cumulative excess lifetime cancer risk between 1×10^{-6} and 1×10^{-4} and a Hazard Index no greater than 1 based on non-residential exposure assumptions.

28. "Nuisance" means the activities or conditions which may be subject to A.R.S. §§ 49-141 and 49-104(A)(11).

29. "Person" means any public or private corporation, company, partnership, firm, association or society of persons, the federal government and any of its departments or agencies, this state or any of its agencies, departments, political subdivisions, counties, towns, municipal corporations, as well as a natural person.

30. "Population" means an aggregate of individuals of a species within a specified location in space and time.

31. "Probabilistic Risk Assessment Methodology" means a site-specific human health risk assessment, performed using probability distributions of input variables and exposure assumptions which take into account the variability and uncertainty of these values, which results in a range or distribution of possible risk estimates.

32. "Reasonable Maximum Exposure" or "RME" means the highest human exposure case that is greater than the average, but is still within the range of possible exposures to humans at a site.

33. "Remediate" or "remediation" has the meaning found in A.R.S. § 49-151(2).

34. "Repository" means the Department's database, established under A.R.S. § 49-152(D), from which the public may view information pertaining to remediation projects for which a Notice of Remediation has been submitted or a Letter of Completion has been issued.

35. "Residential Site-Specific Remediation Level" means a level of contaminants remaining in the soil after remediation which results in a cumulative excess lifetime cancer risk between 1×10^{-6} and 1×10^{-4} and a Hazard Index no greater than 1 based on residential exposure assumptions.

36. "Residential Use" has the meaning found in A.R.S. § 49-151(3).

37. "Site-Specific Human Health Risk Assessment" is a scientific evaluation of the probability of an adverse effect to human health from exposure to specific types and concentrations of contaminants. A site-specific human health risk assessment contains 4 components: identification of potential contaminants; an exposure assessment; a toxicity assessment; and a risk characterization.

38. "Soil" means all earthen materials located between the land surface and groundwater including sediments and unconsolidated accumulations produced by the physical and chemical disintegration of rocks.

39. "Soil Remediation Level" or "SRL" means a pre-determined risk-based

standard developed by the Arizona Department of Health Services pursuant to A.R.S. § 49-152(A)(1)(a) and listed in Appendix A.

40. "Solid Waste Management program" means the system of requirements prescribed in A.R.S. Title 49, Ch. 4, Article 4 and the rules adopted under those statutes.

41. "Special Waste Management program" means the system of requirements prescribed in A.R.S. Title 49, Ch. 4, Article 9 and 18 A.A.C. 8, Article 3.

42. "Underground Storage Tank program" or "UST program" means the system of requirements prescribed in A.R.S. Title 49, Ch. 6, Article 1 and 18 A.A.C. 12.

43. "Voluntary Environmental Mitigation Use Restriction" or "VEMUR" means, pursuant to A.R.S. § 49-152(B), a written document, signed by the real property owner and the Department, and recorded with the county recorder on the chain of title for a particular parcel of real property, which indicates that a remediation to a level less protective than residential standards has been completed and, unless subsequently canceled, that the owner agrees to restrict the property to non-residential uses.

44. "Voluntary Remediation Program" means the system of requirements prescribed in A.R.S. § 49-104(A)(17).

45. "Water Quality Assurance Revolving Fund" or "WQARF" means the system of requirements prescribed in A.R.S. Title 49, Ch. 2, Article 5 and 18 A.A.C. 7, Article 1.

46. "WQARF Voluntary Program" means the system of requirements prescribed in A.R.S. §§ 49-282.05 and 49-285(B).

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-201 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

Editor's Note: Emergency adopted Article 2 removed in Supp. 97-3, was reinstated at the request of the Department. Refer to Supp. 97-1 for emergency Sections. New Sections were subsequently adopted under the regular rulemaking process (Supp. 97-4).

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-202. Applicability

A. This Article applies to a person legally required to conduct soil remediation by any of the following regulatory programs administered by the Department:

1. The Aquifer Protection Permit Program.
2. The Hazardous Waste Management Program.
3. The Solid Waste Management Program.
4. The Special Waste Management Program.
5. The Underground Storage Tank Program.
6. The Water Quality Assurance Revolving Fund.
7. Any other program under A.R.S. Title 49 that regulates soil remediation.

B. This Article also applies to a person who is not legally required to conduct soil remediation, but who chooses to do so under any of the following programs administered by the Department:

1. The Greenfields Pilot Program.
2. The Voluntary Remediation Program.
3. The WQARF Voluntary Program.

C. The requirements of this Article apply in addition to any specific requirements of the programs described in subsections (A) or (B).

D. This Article is limited to soil remediation.

E. A person who is remediating soil at a site which is characterized before the effective date of this Article shall comply with either the Soil Remediation Standards adopted as an interim rule on March 29, 1996, or the Soil Remediation Standards adopted in this Article. A site is considered characterized when the laboratory analytical results of the soil samples delineating the nature, degree, and extent of soil contamination have been received by the person conducting the remediation.

F. Nothing in this Article limits the Department's authority to establish more stringent soil remediation levels in response to:

1. A nuisance.
2. An imminent and substantial endangerment to the public health or the

environment.

G. This Article does not apply to persons remediating soil to numeric soil remediation levels specified in orders of the Director or orders of any Court that have been entered before the effective date of this Article.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-202 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-202
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-203. Remediation Standards

A. A person subject to this Article shall remediate soil so that any concentration of contaminants remaining in the soil after remediation is less than or equal to 1 of the following:

1. The background remediation standards prescribed in R18-7-204.
2. The pre-determined remediation standards prescribed in R18-7-205.
3. The site-specific remediation standards prescribed in R18-7-206.

B. A person who conducts a soil remediation based on the standards set forth in R18-7-205 or R18-7-206 shall remediate soil so that any concentration of contaminants remaining in the soil after remediation does not:

1. Cause or threaten to cause a violation of Water Quality Standards prescribed in 18 A.A.C. 11. If the remediation level for a contaminant in the soil is not protective of aquifer water quality and surface water quality, the person shall remediate soil to an alternative soil remediation level that is protective of aquifer water quality and surface water quality.

2. Exhibit a hazardous waste characteristic of ignitability, corrosivity, or reactivity as defined in A.A.C. R18-8-261(A). If the remediation level for a contaminant in the soil results in leaving soils that exhibit a hazardous waste characteristic other than toxicity, the person shall remediate soil to an alternative soil remediation level such that the soil does not exhibit a hazardous waste characteristic other than toxicity.

3. Cause or threaten to cause an adverse impact to ecological receptors. If the Department determines that the remediation level for a contaminant in soil may impact ecological receptors based on the existence of ecological receptors and complete exposure pathways, the person shall conduct an ecological risk assessment. If the ecological risk assessment indicates that any concentration of contaminants remaining in the soil after remediation causes or threatens to cause an adverse impact to ecological receptors, the person shall remediate soil to an alternative soil remediation level, derived from the ecological risk assessment, that is protective of ecological receptors.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 59; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency

amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-203 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-203
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-204. Background Remediation Standards

A. A person may elect to remediate to a background concentration for a contaminant.

B. A person who conducts a remediation to a background concentration for a contaminant shall establish the background concentration using all of the following factors:

1. Site-specific historical information concerning land use.
2. Site-specific sampling of soils unaffected by a release, but having characteristics similar to those of the soils affected by the release.
3. A statistical analysis of the background concentrations using the 95th percentile upper confidence limit.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-204 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-204
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-205. Pre-Determined Remediation Standards

A. A person may elect to remediate to the residential or non-residential Soil Remediation Levels (SRLs) set forth in Appendix A.

B. A person who conducts an SRL-based remediation shall remediate to the residential SRL on any property where there is residential use at the time remediation is completed.

C. A pre-determined contaminant standard established by federal law or regulation may be used for polychlorinated biphenyl cleanups regulated pursuant to the Toxic Substances Control Act (TSCA) at 40 CFR 761.120 et seq., however, the Department has no regulatory authority to issue a Letter of Completion in TSCA-regulated cleanups.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-205 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-205
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-206. Site-Specific Remediation Standards

A. A person may elect to remediate to a residential or a non-residential site-specific remediation level derived from a site-specific human health risk assessment.

B. A person who conducts a remediation to a residential or a non-residential site-specific remediation level shall use 1 of the following site-specific human health risk assessment methodologies:

1. A deterministic methodology. If a deterministic methodology is used, reasonable maximum exposures shall be evaluated for future use scenarios.

2. A probabilistic methodology. If a probabilistic methodology is used, it shall be no less protective than the 95th percentile upper bound estimate of the distribution.

3. An alternative methodology commonly accepted in the scientific community. An alternative methodology is considered accepted in the scientific community if it is published in peer-reviewed literature, such as a professional journal or publication of standards of general circulation, and there is general consensus within the scientific community about the methodology.

C. A person who conducts a remediation to a site-specific remediation level shall remediate to the residential site-specific remediation level on any property where there is residential use at the time remediation is completed.

D. With prior approval of the Department, a person may achieve the site-specific remediation levels based on the use of institutional and engineering controls. The approval shall be based, in part, on the demonstration that the institutional and engineering controls will be maintained.

E. A person conducting a remediation to a residential or a non-residential site-specific remediation level shall remediate the contaminants in soil to a cumulative excess lifetime cancer risk between 1×10^{-6} and 1×10^{-4} and a Hazard Index no greater than 1 taking into account the factors enumerated in this subsection. The person conducting a remediation, and the Department prior to issuing a Letter of Completion, shall select the excess lifetime cancer risk between 1×10^{-6} and 1×10^{-4} based upon the following site-specific factors:

1. The presence of multiple contaminants.
2. The existence of multiple pathways of exposure.
3. The uncertainty of exposure.
4. The sensitivity of the exposed population.
5. Other program-related laws and regulations that may apply.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-206 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-206
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-207. Voluntary Environmental Mitigation Use Restriction (VEMUR)

A. A person who remediates to the non-residential SRL, or to the non-residential site-specific remediation level shall submit the information listed in R18-7-208(A)(1) through (5) and a VEMUR signed by the real property owner, as set forth in Appendix B, to the applicable Departmental program listed in R18-7-202(A) or R18-7-202(B). The VEMUR shall be formatted in accordance with A.R.S. § 11-480 and any other specific requirements of the County Recorder of the jurisdiction.

B. The applicable Departmental program listed in R18-7-202(A) or R18-7-202(B) shall evaluate the complete information described in R18-7-207(A) and verify whether the non-residential SRL or the non-residential site-specific remediation level has been achieved. An authorized Departmental representative shall either sign the VEMUR submitted pursuant to subsection (A) of this Section and return the signed VEMUR by certified mail, or request additional information to make the verification.

C. A person described in R18-7-207(A) shall record a VEMUR described in R18-7-207(B) with the County Recorder's office where the property is located within 30 calendar days of receipt of the VEMUR signed by the authorized Departmental representative, as evidenced by the return receipt.

D. A real property owner who remediates to the background concentration of a contaminant, to the residential SRL, or to the residential site-specific remediation level and who wishes to cancel a recorded VEMUR shall submit the information required in R18-7-208(A)(1) through (5) and a signed VEMUR Cancellation, as set forth in Appendix C, to the applicable Departmental program listed in R18-7-202(A) or R18-7-202(B). The VEMUR Cancellation shall be formatted in accordance with A.R.S. § 11-480 and any other specific requirements of the County Recorder of the jurisdiction.

E. The applicable Departmental program listed in R18-7-202(A) or R18-7-202(B) shall evaluate the complete information described in R18-7-207(D) and verify whether the background concentration, the residential SRL, or the residential site-specific remediation level has been achieved. An authorized Departmental representative shall either sign the VEMUR Cancellation submitted pursuant to R18-7-207(D) and return the VEMUR Cancellation via certified mail, or request additional information to make the verification.

F. A person who records a document described in R18-7-207 shall provide a copy of the recorded document to the applicable Departmental program described in R18-7-202(A) or R18-7-202(B) within 30 calendar days of the date of recording.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity.

Section R18-7-207 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-207
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-208. Letter of Completion

A. If a person requests a Letter of Completion, a person shall submit, at a minimum, the following information to the applicable Departmental program listed in R18-7-202(A) or R18-7-202(B):

1. A description of the actual activities, techniques, and technologies used to remediate soil at the site, including the legal mechanism in place to ensure that any institutional and engineering controls are maintained.

2. Documentation that requirements prescribed in R18-7-203(A) and R18-7-203(B) (1) and (2) have been satisfied.

3. If the Department determines pursuant to R18-7-203(B) (3) that an ecological risk assessment is required, documentation that the requirements prescribed in R18-7-203(B) (3) have been satisfied.

4. Soil sampling analytical results which are representative of the area which has been remediated, including documentation that the laboratory analysis of samples has been performed by a laboratory licensed by the Arizona Department of Health Services under A.R.S. § 36-495 et seq. and 9 A.A.C. 14, Article 6.

5. A statement signed by the person conducting the remediation certifying the following: I certify under penalty of law that this document and all attachments are, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

B. The applicable Departmental program described in R18-7-202(A) or R18-7-202(B) shall evaluate the information described in R18-7-208(A) and R18-7-207(F) to verify compliance with the soil remediation standards set forth under this Article and shall issue a Letter of Completion or request additional information.

C. The applicable Departmental program listed in R18-7-202(A) or R18-7-202(B) may revoke or amend any Letter of Completion if any of the information submitted pursuant to R18-7-208(A) and R18-7-207(F) is inaccurate or if any condition was unknown to the Department when the Department issued the Letter of Completion.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to

clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-208 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-208
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

R18-7-209. Notice of Remediation and Repository

A. A person conducting soil remediation shall submit a Notice of Remediation to the applicable Departmental program listed in R18-7-202(A) or R18-7-202(B) prior to beginning remediation. A person conducting a soil remediation during an emergency who has notified the Department in accordance with emergency notification requirements prescribed in A.R.S. § 49-284 is not required to submit a Notice of Remediation. Any person who continues or initiates a soil remediation after the initial emergency response shall submit a Notice of Remediation. A Notice of Remediation shall include all of the following information:

1. The name and address of the real property owner;
2. The name and address of the remediating party;
3. A legal description and street address of the property;
4. A list of each contaminant to be remediated;
5. The background concentration, SRL, or site-specific remediation level selected to meet the remediation standards;
6. A description of the current and post-remediation property use as either residential or non-residential;
7. The rationale for the selection of residential or non-residential remediation; and
8. The proposed technologies for remediating the site.

B. The Department shall establish and maintain a repository for information regarding sites where soil is remediated. The Repository shall include a listing of sites for which a Notice of Remediation has been submitted or a Letter of Completion has been issued.

1. For sites where a Notice of Remediation has been filed, the Repository shall contain the date the notice was filed and the information submitted as described in R18-7-209(A).

2. For sites where a Letter of Completion has been issued, the Repository shall contain the following:

- a. The name and address of the real property owner;
- b. The name and address of the remediating party.
- c. A legal description and street address of the property;
- d. A listing of each contaminant that was remediated;

e. The background concentration, SRL, or site-specific remediation level selected to meet the remediation standard;

f. A description whether the residential or non-residential standard was achieved;

g. A description of any engineering or institutional control used to remediate the site; and

h. The date when the Letter of Completion was issued.

3. The Repository will be available for public review during the Department's normal business hours. A person who wishes to obtain copies of the Repository shall pay a copying fee established by the Department.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency amendment reinstated at the request of the Department (see Supp. 97-1); historical note from Supp. 97-3 stating emergency expired removed for clarity. Section R18-7-208 adopted permanently effective December 4, 1997, replacing emergency rule (Supp. 97-4).

AZ ADC R18-7-209
END OF DOCUMENT

ARIZONA ADMINISTRATIVE CODE
TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 7. DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIAL ACTION
ARTICLE 2. SOIL REMEDIATION STANDARDS
Current through December 31, 1999

Appendix A. Soil Remediation Levels (SRLs)

Soil Remediation Levels (SRLs)

		Cas	Cancer	Residential	Non- Residential
Chemical Name		Number	Group	(mg/k)	(mg/k)
A					
1	Acenaphthene. . . . .	.83-32-9. . .	D. . .	3900.0. . .	.41000.0
2	Acephate. . . . .	.30560-19-1	C. . .	.260.0. . .	2200.0
3	Acetaldehyde. . . . .	.75-07-0. . .	B2 . . .	39.0. . .	150.0
4	Acetochlor. . . . .	.34256-82-1	D. . .	1300.0. . .	.14000.0
5	Acetone . . . . .	.67-64-1. . .	D. . .	2100.0. . .	8800.0
6	Acetone cyanohydrin . . . . .	.75-86-5. . .	D. . .	52.0. . .	550.0
7	Acetonitrile. . . . .	.75-05-8. . .	D. . .	.220.0. . .	1200.0
8	Acetophenone. . . . .	.98-86-2. . .	D. . .	.0.49 . . .	1.6
9	Acifluorfen . . . . .	.62476-59-9	D. . .	.850.0. . .	8900.0
10	Acrolein. . . . .	.107-02-8 . .	C. . .	.0.10 . . .	0.34
11	Acrylamide. . . . .	.79-06-1. . .	B2 . . .	.0.98 . . .	4.2
12	Acrylic acid. . . . .	.79-10-7. . .	D. . .	.31000.0. . .	290000.0
13	Acrylonitrile . . . . .	.107-13-1 . .	B1 . . .	.1.9. . .	4.7
14	Alachlor. . . . .	.15972-60-8	B2 . . .	55.0. . .	.240.0
15	Alar. . . . .	.1596-84-5. .	D. . .	9800.0. . .	.100000.0
16	Aldicarb. . . . .	.116-06-3 . .	D. . .	65.0. . .	.680.0
17	Aldicarb sulfone. . . . .	.1646-88-4. .	D. . .	65.0. . .	.680.0
18	Aldrin. . . . .	.309-00-2 . .	B2 . . .	.0.26 . . .	1.1
19	Ally. . . . .	.5585-64-8. .	D. . .	.16000.0. . .	.170000.0

20	Allyl alcohol . . . . .	.107-18-6 . D. . . .	.330.0. . . .	.3400.0
21	Allyl chloride. . . . .	.107-05-1 . C. . . .	3200.0. . . .	33000.0
22	Aluminum. . . . .	.7429-90-5. D. . . .	.77000.0. . .	1000000.0
23	Aluminum phosphide. . . . .	.20859-73-8 D. . . .	31.0. . . .	680.0
24	Amdro . . . . .	.67485-29-4 D. . . .	20.0. . . .	200.0
25	Ametryn . . . . .	.834-12-8 . D. . . .	.590.0. . . .	.6100.0
26	m-Aminophenol . . . . .	.591-27-5 . D. . . .	4600.0. . . .	48000.0
27	4-Aminopyridine . . . . .	.504-24-5 . D. . . .	.1.3. . . .	.14.0
28	Amitraz . . . . .	.33089-61-1 D. . . .	.160.0. . . .	.1700.0
29	Ammonia . . . . .	.7664-41-7. D. . . .	2200.0. . . .	58000.0
30	Ammonium sulfamate. . . . .	.7773-06-0. D. . . .	.13000.0. . .	140000.0
31	Aniline . . . . .	.62-53-3. . B2	19.0. . . .	200.0
32	Anthracene. . . . .	.120-12-7 . D. . . .	.20000.0. . .	200000.0
33	Antimony and compounds. . . .	.7440-36-0. D. . . .	31.0. . . .	680.0
34	Antimony pentoxide. . . . .	.1314-60-9. D	38.0. . . .	850.0
35	Antimony potassium tartrate .	.28300-74-5 D. . . .	69.0. . . .	1500.0
36	Antimony tetroxide. . . . .	.1332-81-6. D. . . .	31.0. . . .	680.0
37	Antimony trioxide . . . . .	.1309-64-4. D. . . .	31.0. . . .	680.0
38	Apollo. . . . .	.74115-24-5 C. . . .	.850.0. . . .	8900.0
39	Aramite . . . . .	.140-57-8 . B2 . . . .	.180.0. . . .	760.0
40	Arsenic . . . . .	.7440-38-2. A. . . .	10.0. . . .	10.0
41	Assure. . . . .	.76578-12-6 D. . . .	.590.0. . . .	.6100.0
42	Asulam. . . . .	.3337-71-1. D. . . .	3300.0. . . .	34000.0
43	Atrazine. . . . .	.1912-24-9. C. . . .	20.0. . . .	86.0
44	Avermectin B1 . . . . .	.65195-55-3 D. . . .	26.0. . . .	270.0
45	Azobenzene. . . . .	.103-33-3 . B2	40.0. . . .	170.0

B

46	Barium and compounds. . . . .	.7440-39-3. D. . . .	5300.0. . . .	.110000.0
47	Barium cyanide. . . . .	.542-62-1 . D. . . .	7700.0. . . .	.170000.0

48 Baygon. . . . .	.114-26-1 . D. . . . .	.260.0. . . .	2700.0
49 Bayleton. . . . .	.43121-43-3 D.	2000.0. . . .	20000.0
50 Baythroid . . . . .	.68359-37-5 D.	1600.0. . . .	17000.0
51 Benefin . . . . .	.1861-40-1. D. . . . .	.20000.0. . . .	200000.0
52 Benomyl . . . . .	.17804-35-2 D.	3300.0. . . .	34000.0
53 Bentazon. . . . .	.25057-89-0 D. . . . .	.160.0. . . .	1700.0
54 Benzaldehyde. . . . .	.100-52-7 . D.	6500.0. . . .	68000.0
55 Benz[a]anthracene . . . . .	.56-55-3. . B2 . . . . .	.6.1. . . .	26.0
56 Benzene . . . . .	.71-43-2. . A. . . . .	.0.62	1.4
57 Benzidine . . . . .	.92-87-5. . A. . . . .	.0.0019	0.0083
58 Benzo[a]pyrene. . . . .	.50-32-8. . B2 . . . . .	.0.61	2.6
59 Benzo[b]fluoranthene. . . . .	.205-99-2 . B2 . . . . .	.6.1. . . .	26.0
60 Benzoic acid. . . . .	.65-85-0. . D.	260000.0. . . .	1000000.0
61 Benzo[k]fluoranthene. . . . .	.207-08-9 . B2	61.0. . . .	260.0
62 Benzotrichloride. . . . .	.98-07-7. . B2 . . . . .	.0.34	1.5
63 Benzyl alcohol. . . . .	.100-51-6 . D. . . . .	.20000.0. . . .	200000.0
64 Benzyl chloride . . . . .	.100-44-7 . B2 . . . . .	.8.0. . . .	20.0
65 Beryllium and compounds . . . . .	.7440-41-7. B2 . . . . .	.1.4. . . .	11.0
66 Bidrin. . . . .	.141-66-2 . D. . . . .	.6.5. . . .	68.0
67 Biphenthrin (Talstar) . . . . .	.82657-04-3 D. . . . .	.980.0. . . .	10000.0
68 1,1-Biphenyl. . . . .	.92-52-4. . D.	3300.0. . . .	34000.0
69 Bis(2-chloroethyl)ether . . . . .	.111-44-4 . B2 . . . . .	.0.43	0.97
70 Bis(2-chloroisopropyl)ether . . . . .	.39638-32-9 C.	25.0. . . .	.67.0
71 Bis(chloromethyl)ether. . . . .	.542-88-1 . A. . . . .	.0.0002	0.0004
72 Bis(2-chloro-1-methylethyl) . . . . .	.108-60-1 . C	63.0. . . .	270.0
ether			
73 Bis(2-ethylhexyl)phthalate. . . . .	.117-81-7 . B2 . . . . .	.320.0. . . .	400.0
(DEHP)			
74 Bisphenol A . . . . .	.80-05-7. . D.	3300.0. . . .	34000.0

75	Boron . . . . .	.7440-42-8. D. . .	5900.0. . .	61000.0
76	Bromodichloromethane. . . . .	.75-27-4. . B2 . . .	.6.3. . . .	.14.0
77	Bromoform (tribromomethane) .75-25-2. . B2 . . .	.560.0. . .	.2400.0	
78	Bromomethane. . . . .	.74-83-9. . D. . . .	.6.8. . . .	.23.0
79	Bromophos . . . . .	.2104-96-3. D. . . .	.330.0. . .	.3400.0
80	Bromoxynil. . . . .	.1689-84-5. D. . . .	1300.0. . .	14000.0
81	Bromoxynil octanoate. . . . .	.1689-99-2. D. . . .	1300.0. . .	14000.0
82	1,3-Butadiene . . . . .	.106-99-0 . B2 . . .	.0.064. . . .	0.14
83	1-Butanol . . . . .	.71-36-3. . D. . . .	6500.0. . .	68000.0
84	Butylate. . . . .	.2008-41-5. D. . . .	3300.0. . .	34000.0
85	Butyl benzyl phthalate. . . . .	.85-68-7. . C. . . .	.13000.0. . .	.140000.0
86	Butylphthalyl butylglycolate.85-70-1. . D. . .	.65000.0. . .	.680000.0	

C

87	Cacodylic acid. . . . .	.75-60-5. . D. . . .	.200.0. . .	2000.0
88	Cadmium and compounds . . . . .	.7440-43-9. B1 . . .	38.0. . . .	850.0
89	Calcium cyanide . . . . .	.592-01-8 . D. . . .	3100.0. . .	.68000.0
90	Caprolactam . . . . .	.105-60-2 . D. . . .	.33000.0. . .	.340000.0
91	Captafol. . . . .	.2425-06-1. C. . . .	.130.0. . .	.1400.0
92	Captan. . . . .	.133-06-2 . D. . . .	1300.0. . .	.5500.0
93	Carbaryl. . . . .	.63-25-2. . D. . . .	6500.0. . .	68000.0
94	Carbazole . . . . .	.86-74-8. . B2 . . .	.220.0. . .	950.0
95	Carbofuran. . . . .	.1563-66-2. E. . . .	.330.0. . .	.3400.0
96	Carbon disulfide. . . . .	.75-15-0. . D. . . .	.7.5. . . .	.24.0
97	Carbon tetrachloride. . . . .	.56-23-5. . B2 . . .	.1.6. . . .	5.0
98	Carbosulfan . . . . .	.55285-14-8 D. . . .	.650.0. . .	.6800.0
99	Carboxin. . . . .	.5234-68-4. D. . . .	6500.0. . .	68000.0
100	Chloral	302-17-0 . D. . . .	.130.0. . .	.1400.0
101	Chloramben.	133-90-4 . D. . . .	.980.0. . .	10000.0
102	Chloranil	118-75-2 . C. . . .	11.0. . . .	.47.0

103	Chlordane	57-74-9 . . B2 . . . .	.3.4 . . . .	.15.0
104	Chlorimuron-ethyl	90982-32-4 D	1300.0	14000.0
105	Chlorine cyanide	506-77-4 . D	3800.0	85000.0
106	Chloroacetic acid	79-11-8 . . D . . . .	.130.0 . . . .	.1400.0
107	2-Chloroacetophenone	532-27-4 . D . . . .	.0.56 . . . .	.5.9
108	4-Chloroaniline	106-47-8 . D . . . .	.260.0 . . . .	.2700.0
109	Chlorobenzene	108-90-7 . D . . . .	.65.0 . . . .	.220.0
110	Chlorobenzilate	510-15-6 . B2 . . . .	.16.0 . . . .	.71.0
111	p-Chlorobenzoic acid	74-11-3 . . D . . . .	.13000.0 . . . .	.140000.0
112	4-Chlorobenzotrifluoride	98-56-6 . . D . . . .	.1300.0 . . . .	.14000.0
113	2-Chloro-1,3-butadiene	126-99-8 . D . . . .	.3.6 . . . .	.12.0
114	1-Chlorobutane	109-69-3 . D . . . .	.710.0 . . . .	.2400.0
115	* 1-Chloro-1,1-difluoroethane	75-68-3 . D . . . .	.2800.0 . . . .	.2800.0
116	* Chlorodifluoromethane . . . . .	.75-45-6 . D . . . .	.2800.0 . . . .	.2800.0
117	Chloroform . . . . .	.67-66-3 . B2 . . . .	.2.5	5.3
118	Chloromethane . . . . .	.74-87-3 . .C . . . .	.12.0 . . . .	.26.0
119	4-Chloro-2-methylaniline . . . . .	.95-69-2 . .B2 . . . .	.7.7 . . . .	.33.0
120	4-Chloro-2-methylaniline . . . . .	.3165-93-3 B2	9.7 . . . .	.41.0
	hydrochloride			
121	beta-Chloronaphthalene . . . . .	.91-58-7 . .D . . . .	.5200.0 . . . .	.55000.0
122	o-Chloronitrobenzene . . . . .	.88-73-3 . .B2 . . . .	.180.0 . . . .	.760.0
123	p-Chloronitrobenzene . . . . .	.100-00-5 .B2 . . . .	.250.0 . . . .	.1100.0
124	2-Chlorophenol . . . . .	.95-57-8 . .D . . . .	.91.0 . . . .	.370.0
125	2-Chloropropane . . . . .	.75-29-6 . .D . . . .	.170.0 . . . .	.580.0
126	Chlorothalonil . . . . .	.1897-45-6 B2 . . . .	.400.0 . . . .	.1700.0
127	* o-Chlorotoluene . . . . .	.95-49-8 . .D . . . .	.160.0 . . . .	.550.0
128	Chlorpropham . . . . .	.101-21-3 .D . . . .	.13000.0 . . . .	.140000.0
129	Chlorpyrifos . . . . .	.2921-88-2 D . . . .	.200.0 . . . .	.2000.0
130	Chlorpyrifos-methyl . . . . .	.5598-13-0 D . . . .	.650.0 . . . .	.6800.0

131	Chlorsulfuron	64902-72-3	D.	. . .	3300.0.	. . .	34000.0
132	Chlorthiophos . . . . .	.602-38-56-4	D	. . .	52.0.	. . .	550.0
133	Chromium, Total						
133	(1/6 ratio Cr VI/Cr III). . . . .	.N/A	. . D.	. . .	2100.0.	. . .	.4500.0
134	Chromium III.	16065-83-1	D.	. . .	.77000.0.	. . .	1000000.0
135	Chromium VI . . . . .	.7440-47-3	A.	. . .	30.0.	. . .	.64.0
136	Chrysene. . . . .	.218-01-9	B2	. . .	.610.0.	. . .	.2600.0
137	Cobalt. . . . .	.7440-48-4	D.	. . .	4600.0.	. . .	97000.0
138	Copper and compounds. . . . .	.7440-50-8	D.	. . .	2800.0.	. . .	63000.0
139	Copper cyanide. . . . .	.544-92-3	.D.	. . .	.380.0.	. . .	.8500.0
140	Crotonaldehyde. . . . .	.123-73-9	.C.	. . .	.0.052.	. . .	.0.11
141	Cumene. . . . .	.98-82-8.	.D.	. . .	19.0.	. . .	.62.0
142	Cyanazine	21725-46-2	D.	. . .	.5.3.	. . .	.23.0
143	Cyanide, Free . . . . .	.57-12-5.	.D.	. . .	1300.0.	. . .	14000.0
144	Cyanogen. . . . .	.460-19-5	.D.	. . .	2600.0.	. . .	27000.0
145	Cyanogen bromide. . . . .	.506-68-3	.D.	. . .	5900.0.	. . .	61000.0
146	Cyanogen chloride . . . . .	.506-77-4	.D.	. . .	3300.0.	. . .	34000.0
147	Cyclohexanone . . . . .	.108-94-1	.D.	. . .	330000.0.	. . .	1000000.0
148	Cyclohexylamine . . . . .	.108-91-8	.D.	. . .	.13000.0.	. . .	.140000.0
149	Cyhalothrin/Karate. . . . .	.68085-85-8	D.	. . .	.330.0.	. . .	3400.0
150	Cypermethrin. . . . .	.52315-07-8	D.	. . .	.650.0.	. . .	6800.0
151	Cyromazine. . . . .	.66215-27-8	D.	. . .	.490.0.	. . .	5100.0

D

152	Dacthal . . . . .	.1861-32-1	D.	. . .	.650.0.	. . .	6800.0
153	Dalapon . . . . .	.75-99-0	D.	. . .	2000.0.	. . .	20000.0
154	Danitol	39515-41-8	D.	. . .	1600.0.	. . .	17000.0
155	DDD . . . . .	.72-54-8	B2	. . .	19.0.	. . .	.80.0
156	DDE . . . . .	.72-55-9	B2	. . .	13.0.	. . .	.56.0
157	DDT . . . . .	.50-29-3	B2	. . .	13.0.	. . .	.56.0

158	Decabromodiphenyl ether . . .	.1163-19-5 C. . .	.650.0. . .	.6800.0
159	Demeton . . . . .	.8065-48-3 D. . . .	.2.6. . . .	.27.0
160	Diallate. . . . .	.2303-16-4 B2 . . .	73.0. . . .	310.0
161	Diazinon. . . . .	.333-41-5 E. . . .	59.0. . . .	610.0
162	Dibenz[ah]anthracene. . . .	.53-70-3 B2 . . . .	.0.61	2.6
163	Dibenzofuran. . . . .	.132-64-9 D. . . .	.260.0. . . .	.2700.0
164	1,4-Dibromobenzene. . . . .	.106-37-6 .D. . . .	.650.0. . . .	.6800.0
165	Dibromochloromethane. . . .	.124-48-1 .C. . . .	53.0. . . .	230.0
166	1,2-Dibromo-3-chloropropane	.96-12-8. .B2 . . . .	.3.2. . . .	.14.0
167	1,2-Dibromoethane . . . . .	.106-93-4 .B2 . . . .	.0.049. . . .	0.2
168	Dibutyl phthalate . . . . .	.84-74-2. .D. . . .	6500.0. . . .	68000.0
169	Dicamba . . . . .	.1918-00-9.D. . . .	2000.0. . . .	20000.0
170	* 1,2-Dichlorobenzene . . . .	.95-50-1. .D. . . .	1100.0. . . .	.3900.0
171	* 1,3-Dichlorobenzene . . . .	.541-73-1 .D. . . .	.500.0. . . .	.2000.0
172	1,4-Dichlorobenzene . . . . .	.106-46-7 .C. . . .	.190.0. . . .	790.0
173	3,3-Dichlorobenzidine . . . .	.91-94-1. .B2 . . . .	.9.9. . . .	.42.0
174	1,4-Dichloro-2-butene . . . .	.764-41-0 .B2 . . . .	.0.074. . . .	0.7
175	Dichlorodifluoromethane . . .	.75-71-8. .D. . . .	94.0. . . .	310.0
176	1,1-Dichloroethane. . . . .	.75-34-3. .C. . . .	.500.0. . . .	.1700.0
177	1,2-Dichloroethane. . . . .	.107-06-2 .B2 . . . .	.2.5. . . .	.5.5
178	1,1-Dichloroethylene. . . . .	.75-35-4. .C. . . .	.0.36	0.8
179	1,2-Dichloroethylene (cis). .	.156-59-2 .D. . . .	31.0. . . .	100.0
180	1,2-Dichloroethylene (trans).	.156-60-5 .D. . . .	78.0. . . .	270.0
181	1,2-Dichloroethylene (mixture)	.540-59-0 D. . . .	35.0. . . .	120.0
182	2,4-Dichlorophenol. . . . .	.120-83-2 D. . . .	.200.0. . . .	.2000.0
183	4-(2,4-Dichlorophenoxy)butyric			
	Acid (2,4-DB) . . . . .	.94-82-6 D. . . .	.520.0. . . .	.5500.0
184	2,4-Dichlorophenoxyacetic			
	Acid (2,4-D) . . . . .	.94-75-7 D. . . .	.650.0. . . .	.6800.0

185	1,2-Dichloropropane . . . .	.78-87-5 .B2 . . . .	.3.1.	6.8
186	1,3-Dichloropropene . . . .	.542-75-6 .B2 . . . .	.2.4.	5.5
187	2,3-Dichloropropanol. . . .	.616-23-9 .D. . . .	.200.0. . . .	.2000.0
188	Dichlorvos. . . . .	.62-73-7 .B2	15.0. . . .	.66.0
189	Dicofol . . . . .	.115-32-2 .C. . . .	10.0. . . .	.43.0
190	Dieldrin. . . . .	.60-57-1 .B2 . . . .	.0.28	1.2
191	Diethylene glycol, monobutyl ether	112-34-5 D . . . .	.370.0. . . .	.3900.0
192	Diethylene glycol, monoethyl ether	111-90-0 D	130000.0. . .	1000000.0
193	Diethylformamide. . . . .	.617-84-5 .D. . . .	.720.0. . . .	.7500.0
194	Di(2-ethylhexyl)adipate . . .	.103-23-1 .C. . . .	3700.0. . . .	16000.0
195	Diethyl phthalate . . . . .	.84-66-2 .D. . . .	.52000.0. . .	.550000.0
196	Diethylstilbestrol. . . . .	.56-53-1 .A. . . .	.0.0001	0.0004
197	Difenzoquat (Avenge). . . .	43222-48-6 D. . . .	5200.0. . . .	55000.0
198	Diflubenzuron	35367-38-5 D. . . .	1300.0. . . .	14000.0
199	Diisopropyl methylphosphonate	1445-75-6 D. . . .	5200.0. . . .	55000.0
200	Dimethipin.	55290-64-7 C. . . .	1300.0. . . .	14000.0
201	Dimethoate. . . . .	.60-51-5 .D. . . .	13.0. . . .	140.0
202	3,3'-Dimethoxybenzidine . . .	.119-90-4 .B2 . . . .	.320.0. . . .	.1400.0
203	Dimethylamine . . . . .	.124-40-3 .D. . . .	.0.07	0.24
204	N-N-Dimethylaniline . . . .	.121-69-7 .D. . . .	.130.0. . . .	.1400.0
205	2,4-Dimethylaniline . . . .	.95-68-1 .C. . . .	.5.9. . . .	.25.0
206	2,4-Dimethylaniline hydrochloride	21436-96-4 C. . . .	7.7. . . .	.33.0
207	3,3'-Dimethylbenzidine. . . .	.119-93-7 .B2 . . . .	.0.48	2.1
208	1,1-Dimethylhydrazine . . . .	.57-14-7 .B, C . . . .	.1.7. . . .	7.3
209	1,2-Dimethylhydrazine . . . .	.540-73-8 .B2 . . . .	.0.12	0.52
210	N,N-Dimethylformamide . . . .	.68-12-2 .D. . . .	6500.0. . . .	68000.0

211	2,4-Dimethylphenol. . . . .	.105-67-9	.D.	. . .	1300.0.	. . .	14000.0
212	2,6-Dimethylphenol. . . . .	.576-26-1	.D.	. . .	39.0.	. . .	410.0
213	3,4-Dimethylphenol. . . . .	.95-65-8.	.D.	. . .	65.0.	. . .	680.0
214	Dimethyl phthalate. . . . .	.131-11-3	.D.	. .	650000.0.	. .	1000000.0
215	Dimethyl terephthalate. . . .	.120-61-6	.D.	. .	6500.0.	. .	68000.0
216	4,6-Dinitro-o-cyclohexyl phenol. . . . .	.131-89-5	D.	. . .	.130.0.	. . .	.1400.0
217	1,3-Dinitrobenzene. . . . .	.99-65-0.	.D.	. . .	.6.5.	. . .	.68.0
218	1,2-Dinitrobenzene. . . . .	.528-29-0	.D.	. . .	26.0.	. . .	.270.0
219	1,4-Dinitrobenzene. . . . .	.100-25-4	.D.	. . .	26.0.	. . .	.270.0
220	2,4-Dinitrophenol . . . . .	.51-28-5.	.D.	. . .	.130.0.	. . .	1400.0
221	Dinitrotoluene mixture. . . .	25321-14-6	B2	. . .	.6.5.	. . .	28.0
222	2,4-Dinitrotoluene. . . . .	.121-14-2	.B2	. . .	.130.0.	. . .	1400.0
223	2,6-Dinitrotoluene. . . . .	.606-20-2	.D.	. . .	65.0.	. . .	.680.0
224	Dinoseb . . . . .	.88-85-7.	.D.	. . .	65.0.	. . .	.680.0
225	di-n-Octyl phthalate. . . . .	.117-84-0	.D.	. .	1300.0.	. .	.14000.0
226	1,4-Dioxane . . . . .	.123-91-1	.B2	. . .	.400.0.	. . .	1700.0
227	Diphenamid. . . . .	.957-51-7	.D.	. .	2000.0.	. .	.20000.0
228	Diphenylamine . . . . .	.122-39-4	.D.	. .	1600.0.	. .	.17000.0
229	1,2-Diphenylhydrazine . . . .	.122-66-7	.B2	. . .	.5.6.	. . .	24.0
230	Diquat. . . . .	.85-00-7.	.D.	. . .	.140.0.	. . .	1500.0
231	Direct black 38 . . . . .	.1937-37-7	A.	. . .	.0.052.	. . .	.0.22
232	Direct blue 6 . . . . .	.2602-46-2	A.	. . .	.0.055.	. . .	0.24
233	Direct brown 95 . . . . .	.16071-86-6	A.	. . .	.0.048.	. . .	.0.21
234	Disulfoton. . . . .	.298-04-4	.E.	. . .	.2.6.	. . .	27.0
235	1,4-Dithiane. . . . .	.505-29-3	.D.	. . .	.650.0.	. . .	6800.0
236	Diuron. . . . .	.330-54-1	.D.	. . .	.130.0.	. . .	1400.0
237	Dodine. . . . .	.2439-10-3	.D.	. . .	.260.0.	. . .	2700.0

E

238	Endosulfan. . . . .	.115-29-7 .D. . . .	.390.0. . . .	.4100.0
239	Endothall . . . . .	.145-73-3 .D. . . .	1300.0. . . .	14000.0
240	Endrin. . . . .	.72-20-8. .D. . . .	20.0. . . .	200.0
241	Epichlorohydrin . . . . .	.106-89-8 .B2 . . . .	.7.5. . . .	.25.0
242	1,2-Epoxybutane . . . . .	.106-88-7 .D. . . .	.370.0. . . .	.3900.0
243	EPTC (S-Ethyl dipropylthiocarbamate)	759-94-4 D. . . .	1600.0. . . .	17000.0
244	Ethephon (2-chloroethyl phosphonic acid)	16672-87-0 D. . . .	.330.0. . . .	.3400.0
245	Ethion. . . . .	.563-12-2 .D. . . .	33.0. . . .	340.0
246	2-Ethoxyethanol . . . . .	.110-80-5 .D. . . .	.26000.0. . . .	.270000.0
247	2-Ethoxyethanol acetate . . . . .	.111-15-9 .D. . . .	.20000.0. . . .	.200000.0
248	* Ethyl acetate . . . . .	.141-78-6 .D. . . .	.18000.0. . . .	39000.0
249	Ethyl acrylate. . . . .	.140-88-5 .B2 . . . .	.2.1.	4.5
250	* Ethylbenzene. . . . .	.100-41-4 .D. . . .	1500.0. . . .	.2700.0
251	Ethylene cyanohydrin. . . . .	.109-78-4 .D. . . .	.20000.0. . . .	.200000.0
252	Ethylene diamine. . . . .	.107-15-3 .D. . . .	1300.0. . . .	14000.0
253	Ethylene glycol . . . . .	.107-21-1 .D. . . .	130000.0. . . .	1000000.0
254	Ethylene glycol, monobutyl ether	111-76-2 D. . . .	370.0. . . .	.3900.0
255	Ethylene oxide. . . . .	.75-21-8. .B1 . . . .	.1.3.	3.2
256	Ethylene thiourea (ETU) . . . . .	.96-45-7. .B2 . . . .	.5.2. . . . .	.55.0
257	* Ethyl chloride. . . . .	.75-00-3. .D. . . .	1100.0. . . .	.4200.0
258	* Ethyl ether . . . . .	.60-29-7. .D. . . .	3800.0. . . .	.3800.0
259	* Ethyl methacrylate. . . . .	.97-63-2. .D. . . .	.210.0. . . .	690.0
260	Ethyl p-nitrophenyl phenylphosphorothioate	2104-64-5 D. . . .	.0.65. . . . .	.6.8
261	Ethylphthalyl ethyl glycolate	84-72-0 D. . . .	200000.0 . . . .	.1000000.0
262	Express . . . . .	.101200-48-0 D. . . .	520.0. . . .	.5500.0

F

263	Fenamiphos.	22224-92-6	D. . . .	16.0. . . .	170.0
264	Fluometuron . . . . .	.2164-17-2	D. . . .	.850.0. . . .	.8900.0
265	Fluoranthene. . . . .	.206-44-0	D. . . .	2600.0. . . .	27000.0
266	Fluorene. . . . .	.86-73-7	D. . . .	2600.0. . . .	27000.0
267	Fluorine (soluble fluoride)	.7782-41-4	D. . . .	3900.0. . . .	41000.0
268	Fluoridone.	59756-60-4	D. . . .	5200.0. . . .	55000.0
269	Flurprimidol.	56425-91-3	D. . . .	1300.0. . . .	14000.0
270	Flutolanil.	66332-96-5	D. . . .	3900.0. . . .	41000.0
271	Fluvalinate	69409-94-5	D. . . .	.650.0. . . .	.6800.0
272	Folpet.	133-07-3	B2 . . .	1300.0. . . .	.5500.0
273	Fomesafen . . . . .	.72178-02-0	C. . . .	23.0. . . .	100.0
274	Fonofos . . . . .	.944-22-9	D. . . .	.130.0. . . .	.1400.0
275	Formaldehyde. . . . .	.50-00-0	B1 . . .	9800.0. . . .	.100000.0
276	Formic Acid . . . . .	.64-18-6	D. . . .	130000.0. . . .	1000000.0
277	Fosetyl-al.	39148-24-8	C. . . .	200000.0. . . .	1000000.0
278	Furan . . . . .	.110-00-9	D. . . .	.2.5. . . .	8.5
279	Furazolidone. . . . .	.67-45-8	B2 . . .	.1.2. . . .	5.0
280	Furfural. . . . .	.98-01-1	D. . . .	.200.0. . . .	.2000.0
281	Furium. . . . .	.531-82-8	B2 . . .	.0.089. . . .	0.38
282	Furmecyclox	60568-05-0	B2 . . .	.150.0. . . .	640.0

G

283	Glufosinate-ammonium. . . .	77182-82-2	D. . . .	26.0. . . .	270.0
284	Glycidaldehyde. . . . .	.765-34-4	B2 . . .	26.0. . . .	270.0
285	Glyphosate. . . . .	.1071-83-6	D. . . .	6500.0. . . .	68000.0

H

286	Haloxypop-methyl.	69806-40-2	D. . . .	.3.3. . . .	.34.0
287	Harmony	79277-27-3	D. . . .	.850.0. . . .	.8900.0
288	Heptachlor. . . . .	.76-44-8	B2 . . .	.0.99	4.2

289	Heptachlor epoxide. . . . .	.1024-57-3	B2 . . . .	.0.49	2.1
290	Hexabromobenzene. . . . .	.87-82-1	D. . . .	.130.0. . . .	.1400.0
291	Hexachlorobenzene . . . . .	.118-74-1	B2 . . . .	.2.8. . . .	.12.0
292	Hexachlorobutadiene . . . . .	.87-68-3	C. . . .	.13.0. . . .	.140.0
293	HCH (alpha) . . . . .	.319-84-6	B2 . . . .	.0.71	3.0
294	HCH (beta). . . . .	.319-85-7	C. . . .	.2.5. . . .	.11.0
295	HCH (gamma) Lindane . . . . .	.58-89-9	B2-C . . . .	.3.4. . . .	.15.0
296	HCH-technical . . . . .	.608-73-1	B2 . . . .	.2.5. . . .	.11.0
297	Hexachlorocyclopentadiene . . . . .	.77-47-4	D. . . .	.450.0. . . .	.4600.0
298	Hexachlorodibenzo-p-dioxin mixture (HxCDD) . . . . .	.19408-74-3	B. . . .	20.000. . . .	720.0031
299	Hexachloroethane. . . . .	.67-72-1.	.C. . . .	65.0. . . .	680.0
300	Hexachlorophene . . . . .	.70-30-4.	.D. . . .	20.0. . . .	200.0
301	Hexahydro-1,3,5-trinitro- 1,3,5-triazine. . . . .	.121-82-4	C. . . .	40.0. . . .	170.0
302	* n-Hexane. . . . .	.110-54-3	D. . . .	.120.0. . . .	400.0
303	Hexazinone. . . . .	.51235-04-2	D. . . .	2200.0. . . .	22000.0
304	Hydrazine, hydrazine sulfate	302-01-2	B2 . . . .	.1.5. . . .	6.4
305	Hydrocarbons (C sub10 to C sub32 ). . . . .	.N/A	N/A. . . .	4100.0. . . .	18000.0
306	Hydrogen chloride . . . . .	.7647-01-0	D. . . .	.370.0. . . .	.3900.0
307	Hydrogen cyanide. . . . .	.74-90-8	D. . . .	.11.0. . . .	.35.0
308	p-Hydroquinone. . . . .	.123-31-9	D. . . .	2600.0. . . .	27000.0
	I				
309	Imazalil. . . . .	.35554-44-0	D. . . .	.850.0. . . .	.8900.0
310	Imazaquin . . . . .	.81335-37-7	D. . . .	.16000.0. . . .	.170000.0
311	Indeno[1,2,3-cd]pyrene. . . . .	.193-39-5	B2 . . . .	.6.1. . . .	.26.0
312	Iprodione . . . . .	.36734-19-7	D. . . .	2600.0. . . .	27000.0
313	* Isobutanol. . . . .	.78-83-1	D. . . .	.11000.0. . . .	42000.0

314 Isophorone.78-59-1. .C. . . 4700.0. . . 20000.0

315 Isopropalin33820-53-0 D. . . .980.0. . . 10000.0

316 Isopropyl methyl phosphonic
acid1832-54-8 D. . . 6500.0. . . 68000.0

317 Isoxaben82558-50-7 C. . . 3300.0. . . 34000.0

K

318 Kepone.143-50-0 B, C . . 0.25. . . .1.1

L

319 Lactofen.77501-63-4 D. . . 130.0 . . . 1400.0

320 #Lead7439-92-1 B2 . . .400.0 . . . 2000.0

321 Lead (tetraethyl)78-00-2 D. . . .0.0065. . . .0.068

322 Linuron330-55-2 C. . . .130.0. . . . 1400.0

323 Lithium7439-93-2 D. . . 1500.0. . . .34000.0

324 Londax.83055-99-6 D. . .13000.0. . . 140000.0

M

325 Malathion121-75-5 D. . . 1300.0. . . .14000.0

326 Maleic anhydride.108-31-6 D . . 6500.0. . . .68000.0

327 Maleic hydrazide.123-33-1 D . .33000.0. . . 340000.0

328 Malononitrile109-77-3 D1.3. . . . 14.0

329 Mancozeb.8018-01-7 D. . . 2000.0. . . .20000.0

330 Maneb12427-38-2 D. . . .330.0. . . . 3400.0

331 Manganese and compounds . . .7439-96-5 D. . . 3200.0. . . .43000.0

332 Mephosfolan950-10-7 D. . . .5.9. . . . 61.0

333 Mepiquat.24307-26-4 D. . . 2000.0. . . .20000.0

334 Mercuric chloride7487-94-7 C . . . 23.0.510.0

335 Mercury (elemental)7439-97-6 D6.7.180.0

336 Mercury (methyl).22967-92-6 D. . . .6.5.68.0

337 Merphos150-50-5 D. . . .2.0.20.0

338 Merphos oxide78-48-8 D. . . .2.0.20.0

339	Metalaxyl	57837-19-1	D.	. . .	3900.0.	. . .	.41000.0
340	Methacrylonitrile . . . . .	.126-98-7	D.	. . .	.2.0.	. . .	.8.1
341	Methamidophos	10265-92-6	D.	. . .	.3.3.	. . .	34.0
342	Methanol. . . . .	.67-56-1	D.	. . .	.33000.0.	. . .	340000.0
343	Methidathion. . . . .	.950-37-8	C.	. . .	65.0.	. . .	.680.0
344	Methomyl.	16752-77-5	D.	. . .	1600.0.	. . .	.17000.0
345	Methoxychlor. . . . .	.72-43-5	.D.	. . .	.330.0.	. . .	3400.0
346	2-Methoxyethanol. . . . .	.109-86-4	.D.	. . .	65.0.	. . .	.680.0
347	2-Methoxyethanol acetate. . . . .	.110-49-6	.D.	. . .	.130.0.	. . .	.1400.0
348	2-Methoxy-5-nitroaniline. . . . .	.99-59-2	.C.	. . .	97.0.	. . .	410.0
349	Methyl acetate. . . . .	.79-20-9	.D.	. . .	.21000.0.	. . .	88000.0
350	Methyl acrylate . . . . .	.96-33-3	.D.	. . .	69.0.	. . .	230.0
351	2-Methylaniline (o-toluidine)100-61-8	.B2	. . .	. . .	19.0.	. . .	.79.0
352	2-Methylaniline hydrochloride636-21-5	.B2	. . .	. . .	25.0.	. . .	110.0
353	Methyl chlorocarbonate. . . . .	.79-22-1	.D.	. . .	.65000.0.	. . .	.680000.0
354	2-Methyl-4-chlorophenoxyacetic acid . . . . .	.94-74-6	D.	. . .	33.0.	. . .	340.0
355	4-(2-Methyl-4-chlorophenoxy) butyric acid . . . . .	.94-81-5	D.	. . .	.650.0.	. . .	.6800.0
356	2-(2-Methyl-4-chlorophenoxy) propionic acid . . . . .	.93-65-2	D.	. . .	65.0.	. . .	680.0
357	2-(2-Methyl-1,4-chlorophenoxy) propionic acid . . . . .	.16484-77-8	D.	. . .	65.0.	. . .	680.0
358	Methylcyclohexane . . . . .	.108-87-2	.D.	. . .	.56000.0.	. . .	.590000.0
359	4,4'-Methylenebisbenzeneamine101-77-9	.D.	. . .	. . .	18.0.	. . .	.76.0
360	4,4'-Methylene bis (2-chloroaniline) . . . . .	.101-14-4	B2	. . .	34.0.	. . .	150.0
361	4,4'-Methylene bis (N,N'-dimethyl) aniline. . . . .	.101-61-1	.B2	. . .	97.0.	. . .	410.0

362	Methylene bromide . . . . .	.74-95-3 .D. . . .	.650.0 . . .	.6800.0
363	Methylene chloride. . . . .	.75-09-2 .B2 . . .	77.0 . . .	180.0
364	Methyl ethyl ketone . . . . .	.78-93-3 .D. . . .	7100.0 . . .	27000.0
365	Methyl hydrazine. . . . .	.60-34-4 .B, C . . .	.4.0 . . .	.17.0
366	Methyl isobutyl ketone. . . . .	.108-10-1 .D. . . .	.770.0 . . .	.2800.0
367	* Methyl methacrylate . . . . .	.80-62-6 .D. . . .	.760.0 . . .	.2800.0
368	2-Methyl-5-nitroaniline . . . . .	.99-55-8 .C. . . .	.130.0 . . .	580.0
369	Methyl parathion. . . . .	.298-00-0 .D. . . .	16.0 . . .	170.0
370	2-Methylphenol. . . . .	.95-48-7 .C. . . .	3300.0 . . .	34000.0
371	3-Methylphenol. . . . .	.108-39-4 .C. . . .	3300.0 . . .	34000.0
372	4-Methylphenol. . . . .	.106-44-5 .C. . . .	.330.0 . . .	.3400.0
373	Methyl styrene (mixture).	25013-15-4 D. . . .	.120.0 . . .	520.0
374	* Methyl styrene (alpha). . . . .	.98-83-9 .D. . . .	.890.0 . . .	.3100.0
375	Methyl tertbutyl ether (MTBE) 1634-04-4 D. . . .	.320.0 . . .	.3300.0	
376	Metolacolor (Dual)	51218-45-2 D. . . .	9800.0 . . .	100000.0
377	Metribuzin.	21087-64-9 D. . . .	1600.0 . . .	17000.0
378	Mirex . . . . .	.2385-85-5.B2 . . .	.2.5 . . .	.11.0
379	Molinate. . . . .	.2212-67-1.D. . . .	.130.0 . . .	.1400.0
380	Molybdenum. . . . .	.7439-98-7.D. . . .	.380.0 . . .	.8500.0
381	Monochloramine.	10599-90-3 D. . . .	6500.0 . . .	68000.0

N

382	Naled . . . . .	.300-76-5 .D. . . .	.130.0 . . .	.1400.0
383	Naphthalene . . . . .	.91-20-3 .D. . . .	2600.0 . . .	27000.0
384	Napropamide	15299-99-7 D. . . .	6500.0 . . .	68000.0
385	Nickel and compounds. . . . .	.7440-02-0 D. . . .	1500.0 . . .	34000.0
386	Nickel subsulfide	12035-72-2 A. . . .	5100.0 . . .	11000.0
387	Nitrapyrin. . . . .	.1929-82-4 D. . . .	98.0 . . .	.1000.0
388	Nitrate	14797-55-8 D. . . .	100000.0 . . .	1000000.0
389	Nitrite	14797-65-0 D. . . .	6500.0 . . .	68000.0

390 2-Nitroaniline.88-74-4. .D. . . .3.9. . . .41.0
 391 Nitrobenzene.98-95-3. .D. . . .18.0. . . .94.0
 392 Nitrofurantoin.67-20-9. .D. . .4600.0. . .48000.0
 393 Nitrofurazone59-87-0. .B2 . . .3.0. . . .13.0
 394 Nitroguanidine.556-88-7 .D. . .6500.0. . .68000.0
 395 N-Nitrosodi-n-butylamine. . .924-16-3 .B2 . . .0.22 . . .0.55
 396 N-Nitrosodiethanolamine . . .1116-54-7.B2 . . .1.6. . . .6.8
 397 N-Nitrosodiethylamine . . .55-18-5. .B2 . . .0.03 . . .0.13
 398 N-Nitrosodimethylamine. . .62-75-9. .B2 . . .0.087. . .0.37
 399 N-Nitrosodiphenylamine. . .86-30-6. .B2 . .910.0. . .3900.0
 400 N-Nitroso di-n-propylamine. .621-64-7 .B2 . . .0.63 . . .2.7
 401 N-Nitroso-N-methylethylamine10595-95-6 B2 . . .0.20 . . .0.87
 402 N-Nitrosopyrrolidine. . . .930-55-2 .B2 . . .2.1. . . .9.1
 403 m-Nitrotoluene.99-08-1. .D. . .650.0. . .6800.0
 404 p-Nitrotoluene.99-99-0. .D. . .650.0. . .6800.0
 405 Norflurazon27314-13-2 D. . .2600.0. . .27000.0
 406 NuStar.85509-19-9 D. . .46.0. . .480.0

O

407 Octabromodiphenyl ether . .32536-52-0 D. . .200.0. . .2000.0
 408 Octahydro-1357-tetranitro-
 1357- tetrazocine2691-41-0 D. . .3300.0. . .34000.0
 409 Octamethylpyrophosphoramide .152-16-9 D. . .130.0. . .1400.0
 410 Oryzalin.19044-88-3 C. . .3300.0. . .34000.0
 411 Oxadiazon19666-30-9 D. . .330.0. . .3400.0
 412 Oxamyl.23135-22-0 E. . .1600.0. . .17000.0
 413 Oxyfluorfen42874-03-3 D. . .200.0. . .2000.0

P

414 Paclobutrazol76738-62-0 D. . .850.0. . .8900.0
 415 Paraquat.4685-14-7.C. . .290.0. . .3100.0

416	Parathion . . . . .	.56-38-2 .C. . .	.390.0. . .	.4100.0
417	Pebulate.	1114-71-2. D. . .	3300.0. . .	34000.0
418	Pendimethalin	40487-42-1 D. . .	2600.0. . .	27000.0
419	Pentabromo-6-chloro cyclohexane	87-84-3.C. . .	.190.0. . .	830.0
420	Pentabromodiphenyl ether. .	32534-81-9 D. . .	.130.0. . .	.1400.0
421	Pentachlorobenzene. . . . .	.608-93-5 .D. . . .	52.0. . . .	550.0
422	Pentachloronitrobenzene . .	.82-68-8. .C. . . .	17.0. . . .	73.0
423	Pentachlorophenol . . . . .	.87-86-5. .B2 . . .	25.0. . . .	79.0
424	Permethrin.	52645-53-1 D. . .	3300.0. . .	34000.0
425	Phenmedipham.	13684-63-4 D. . .	.16000.0. .	.170000.0
426	Phenol. . . . .	.108-95-2 .D. . .	.39000.0. .	.410000.0
427	m-Phenylenediamine. . . . .	.108-45-2 .D. . .	.390.0. . .	.4100.0
428	p-Phenylenediamine. . . . .	.106-50-3 .D. . .	.12000.0. .	.130000.0
429	Phenylmercuric acetate. . .	.62-38-4. .D. . . .	.5.2. . . .	.55.0
430	2-Phenylphenol. . . . .	.90-43-7. .C. . . .	2300.0. . .	.9800.0
431	Phorate . . . . .	.298-02-2 .E. . . .	13.0. . . .	140.0
432	Phosmet . . . . .	.732-11-6 .D. . . .	1300.0. . .	14000.0
433	Phosphine . . . . .	.7803-51-2.D. . . .	20.0. . . .	200.0
434	Phosphorus, white . . . . .	.7723-14-0.D. . . .	.1.5. . . .	.34.0
435	Phthalic anhydride. . . . .	.85-44-9. .D. . . .	130000.0. .	1000000.0
436	Picloram. . . . .	.1918-02-1.D. . . .	4600.0. . .	48000.0
437	Pirimiphos-methyl	23505-41-1 D. . . .	.650.0. . .	.6800.0
438	Polybrominated biphenyls (PBBs)	N/A. .B2 . . . .	.0.46	2.1
439	Polychlorinated biphenyls (PCBs)	1336-36-3 B2 . . .	2.5. . . .	.13.0
440	Potassium cyanide . . . . .	.151-50-8 .D. . . .	3300.0. . .	34000.0
441	Potassium silver cyanide. .	.506-61-6 .D. . . .	.13000.0. .	.140000.0
442	Prochloraz.	67747-09-5 C. . . .	30.0. . . .	130.0
444	Prometon.	1610-18-0. D. . . .	.980.0. . .	10000.0
445	Prometryn	7287-19-6. D. . . .	.260.0. . .	.2700.0

446	Pronamide	23950-58-5	C.	. . .	4900.0.	. . .	51000.0
447	Propachlor.	1918-16-7.	D.	. . .	.850.0.	. . .	.8900.0
448	Propanil. . . . .	.709-98-8	.D.	. . .	.330.0.	. . .	.3400.0
449	Propargite.	2312-35-8.	D.	. . .	1300.0.	. . .	14000.0
450	Propargyl alcohol . . . . .	.107-19-7	.D.	. . .	.130.0.	. . .	.1400.0
451	Propazine . . . . .	.139-40-2	.C.	. . .	1300.0.	. . .	14000.0
452	Propham . . . . .	.122-42-9	.D.	. . .	1300.0.	. . .	14000.0
453	Propiconazole	60207-90-1	D.	. . .	.850.0.	. . .	8900.0
454	Propylene glycol. . . . .	.57-55-6.	.D.	.1000000.0.	. . .	1000000.0	
455	Propylene glycol, monoethyl ether . . . . .	.111-35-3	D.	. . .	.46000.0.	. . .	.480000.0
456	Propylene glycol, monomethyl ether . . . . .	.107-98-2	D.	. . .	.46000.0.	. . .	.480000.0
457	Propylene oxide . . . . .	.75-56-9.	.B2	. . .	19.0.	. . .	.79.0
458	Pursuit	81335-77-5	D.	. . .	.16000.0.	. . .	.170000.0
459	Pydrin.	51630-58-1	D.	. . .	1600.0.	. . .	17000.0
460	Pyrene. . . . .	.129-00-0	.D.	. . .	2000.0.	. . .	20000.0
461	Pyridine. . . . .	.110-86-1	.D.	. . .	65.0.	. . .	680.0

Q

462	Quinalphos.	13593-03-8	D.	. . .	33.0.	. . .	340.0
463	Quinoline . . . . .	.91-22-5.	.C.	. . .	.0.37	. . .	1.6

R

464	RDX (Cyclonite) . . . . .	.121-82-4	.C.	. . .	40.0.	. . .	170.0
465	Resmethrin.	10453-86-8	D.	. . .	2000.0.	. . .	20000.0
466	Ronnel. . . . .	.299-84-3	.D.	. . .	3300.0.	. . .	34000.0
467	Rotenone. . . . .	.83-79-4.	.D.	. . .	.260.0.	. . .	2700.0

S

468	Savey	78578-05-0	D.	. . .	1600.0.	. . .	17000.0
469	Selenious Acid. . . . .	.7783-00-8.	D.	. . .	.330.0.	. . .	3400.0

470	Selenium. . . . .	.7782-49-2.D. . . .	.380.0. . . .	8500.0
471	Selenourea. . . . .	.630-10-4 .D. . . .	.330.0. . . .	3400.0
472	Sethoxydim.	74051-80-2 D. . . .	5900.0. . . .	61000.0
473	Silver and compounds. . . . .	.7440-22-4.D. . . .	.380.0. . . .	8500.0
474	Silver cyanide. . . . .	.506-64-9 .D. . . .	6500.0. . . .	68000.0
475	Simazine. . . . .	.122-34-9 .C. . . .	37.0. . . .	160.0
476	Sodium azide.	26628-22-8 D. . . .	.260.0. . . .	.2700.0
477	Sodium cyanide. . . . .	.143-33-9 .D. . . .	2600.0. . . .	27000.0
478	Sodium diethyldithiocarbamate	148-18-5 .C. . . .	16.0. . . .	.71.0
479	Sodium fluoroacetate. . . . .	.62-74-8. .D. . . .	.1.3. . . .	.14.0
480	Sodium metavanadate	13718-26-8 D. . . .	65.0. . . .	680.0
481	Strontium, stable . . . . .	.7440-24-6.D. . . .	.46000.0. . . .	1000000.0
482	Strychnine. . . . .	.57-24-9. .D. . . .	20.0. . . .	200.0
483	* Styrene . . . . .	.100-42-5 .C. . . .	3300.0. . . .	.3300.0
484	Systhane.	88671-89-0 D. . . .	1600.0. . . .	17000.0
T				
485	2,3,7,8-TCDD (dioxin) . . . . .	.1746-01-6. .B2 . . . .	.0.000038	0.00024
486	Tebuthiuron	34014-18-1 D. . . .	4600.0. . . .	48000.0
487	Temephos. . . . .	.3383-96-8 D. . . .	1300.0. . . .	14000.0
488	Terbacil. . . . .	.5902-51-2 E. . . .	.850.0. . . .	.8900.0
489	Terbufos.	13071-79-9 D. . . .	1.6. . . .	.17.0
490	Terbutryn . . . . .	.886-50-0 .D. . . .	65.0. . . .	680.0
491	1,2,4,5-Tetrachlorobenzene. . . . .	.95-94-3. .D. . . .	20.0. . . .	200.0
492	1,1,1,2-Tetrachloroethane . . . . .	.630-20-6 .C. . . .	23.0. . . .	.54.0
493	1,1,2,2-Tetrachloroethane . . . . .	.79-34-5. .C. . . .	.4.4. . . .	.11.0
494	Tetrachloroethylene (PCE) . . . . .	.127-18-4 .B2	53.0. . . .	170.0
495	2,3,4,6-Tetrachlorophenol . . . . .	.58-90-2. .D. . . .	2000.0. . . .	20000.0
496	p,a,a,a-Tetrachlorotoluene. . . . .	.5216-25-1 B2 . . . .	.0.22	0.95
497	Tetrachlorovinphos. . . . .	.961-11-5 .C. . . .	.190.0. . . .	790.0

498	Tetraethyldithiopyrophosphate	3689-24-5 D.	. . . . .	33.0.	. . . . .	340.0
499	Thallic oxide . . . . .	.1314-32-5 D.	. . . . .	.5.4.	. . . . .	120.0
500	Thallium acetate. . . . .	.563-68-8 .D.	. . . . .	.6.9.	. . . . .	150.0
501	Thallium carbonate. . . . .	.6533-73-9 D.	. . . . .	.6.1.	. . . . .	140.0
502	Thallium chloride . . . . .	.7791-12-0 D.	. . . . .	.6.1.	. . . . .	140.0
503	Thallium nitrate.	10102-45-1 D.	. . . . .	.6.9.	. . . . .	150.0
504	Thallium selenite	12039-52-0 D.	. . . . .	.6.9.	. . . . .	150.0
505	Thallium sulfate. . . . .	.7446-18-6 D.	. . . . .	.6.1.	. . . . .	140.0
506	Thiobencarb	28249-77-6 D.	. . . . .	.650.0.	. . . . .	.6800.0
507	2-(Thiocyanomethylthio)- benzothiazole	3689-24-5 D.	. . . . .	2000.0.	. . . . .	20000.0
508	Thiofanox	39196-18-4 D.	. . . . .	20.0.	. . . . .	200.0
509	Thiophanate-methyl.	23564-05-8 D.	. . . . .	5200.0.	. . . . .	55000.0
510	Thiram. . . . .	.137-26-8 .D.	. . . . .	.330.0.	. . . . .	.3400.0
511	Tin and compounds . . . . .	.7440-31-5 D.	. . . . .	.46000.0.	. . . . .	1000000.0
512	* Toluene . . . . .	.108-88-3 .D.	. . . . .	.790.0.	. . . . .	2700.0
513	Toluene-2,4-diamine . . . . .	.95-80-7. .B2	. . . . .	.1.4.	. . . . .	.6.0
514	Toluene-2,5-diamine . . . . .	.95-70-5. .D.	. . . . .	.39000.0.	. . . . .	410000.0
515	Toluene-2,6-diamine . . . . .	.823-40-5 .C.	. . . . .	.13000.0.	. . . . .	140000.0
516	p-Toluidine . . . . .	.106-49-0 .C.	. . . . .	23.0.	. . . . .	.100.0
517	Toxaphene . . . . .	.8001-35-2 B2	. . . . .	.4.0.	. . . . .	17.0
518	Tralomethrin.	66841-25-6 D.	. . . . .	490.0.	. . . . .	5100.0
519	Triallate . . . . .	.2303-17-5 D.	. . . . .	.850.0.	. . . . .	8900.0
520	Triasulfuron. . . . .	.82097-50-5 D.	. . . . .	.650.0.	. . . . .	6800.0
521	1,2,4-Tribromobenzene . . . . .	.615-54-3 .D.	. . . . .	.330.0.	. . . . .	3400.0
522	Tributyltin oxide (TBTO). . . . .	.56-35-9. .D.	. . . . .	.2.0.	. . . . .	20.0
523	2,4,6-Trichloroaniline. . . . .	.634-93-5 .C.	. . . . .	.130.0.	. . . . .	.560.0
524	2,4,6-Trichloroaniline hydrochloride	33663-50-2 C.	. . . . .	.150.0.	. . . . .	.660.0

525 * 1,2,4-Trichlorobenzene . . .120-82-1 .D. . . .570.0 . . . 4700.0
 526 * 1,1,1-Trichloroethane . . .71-55-6 .D. . . .1200.0 . . . 4800.0
 527 1,1,2-Trichloroethane . . .79-00-5 .C. . . .6.5 . . . 15.0
 528 Trichloroethylene (TCE) . . .79-01-6 .B2 . . . 27.0 . . . 70.0
 529 Trichlorofluoromethane . . .75-69-4 .D. . . .380.0 . . . 1300.0
 530 2,4,5-Trichlorophenol . . .95-95-4 .D. . . .6500.0 . . .68000.0
 531 2,4,6-Trichlorophenol . . .88-06-2 .B2 . . .400.0 . . . 1700.0
 532 2,4,5-Trichlorophenoxyacetic
 Acid.93-76-5 .D . . . 650.0 . . . 6800.0
 533 2-(2,4,5-Trichlorophenoxy)
 propionic acid.93-72-1 .D . . . 520.0 . . . 5500.0
 534 1,1,2-Trichloropropane . . .598-77-6 .D. . . .15.0 . . . 50.0
 535 1,2,3-Trichloropropane . . .96-18-4 .B20.0140.03
 536 1,2,3-Trichloropropene . . .96-19-5 .D. . . .11.0 . . . 38.0
 537 * 1,1,2-Trichloro-1,2,
 2-trifluoroethane76-13-1 .D. . .10000.0 . .10000.0
 538 Tridiphanes58138-08-2 D. . . .200.0 . . . 2000.0
 539 Triethylamine121-44-8 .D. . . .23.0 . . . 84.0
 540 Trifluralin1582-09-8 C. . . .490.0 . . . 2500.0
 541 Trimethyl phosphate512-56-1 .B2 . . .120.0 . . .520.0
 542 1,3,5-Trinitrobenzene . . .99-35-4 .D. . . .3.3 . . . 34.0
 543 Trinitrophenylmethylnitramine 479-45-8 .D. . . .650.0 . . . 6800.0
 544 2,4,6-Trinitrotoluene . . .118-96-7 .C. . . .33.0 . . .340.0

V

545 Vanadium7440-62-2.D. . . .540.0 . .12000.0
 546 Vanadium pentoxide1314-62-1.D. . . .690.0 . .15000.0
 547 Vanadium sulfate3701-70-7 D. . .1500.0 . .34000.0
 548 Vernam1929-77-7 D. . . .65.0 . . .680.0
 549 Vinclozolin50471-44-8 D. . .1600.0 . .17000.0

550 Vinyl acetate108-05-4 .D. . . .780.0. . . 2600.0
 551 Vinyl bromide593-60-2 .B21.9. . . .4.1
 552 Vinyl chloride.75-01-4. .A.0.016. . . .0.035

W

553 Warfarin.81-81-2. .D. . . . 20.0. . . .200.0

X

554 * Xylene (mixed).1330-20-7 D. . . 2800.0. . . 2800.0

Z

555 Zinc.7440-66-6 D. . .23000.0. . 510000.0

556 Zinc phosphide.1314-84-7 D. . . . 23.0. . . .510.0

557 Zinc cyanide.557-21-1 D. . . 3300.0. . .34000.0

558 Zineb12122-67-7 D. . . 3300.0. . .34000.0

* = 1% free-phase analysis

#= Based on IEUBK Model

<<degrees>> = Based on natural background

N/A = Not Applicable

CARCINOGENICITY CLASSIFICATIONS:

A = Known human carcinogen

B1 = Probable human carcinogen, with limited data
 indicating human carcinogenicity.

B2 = Probable human carcinogen, with inadequate or no
 evidence of carcinogenicity in humans.

Sufficient evidence for carcinogenicity in laboratory
 animals.

C = Possible human carcinogen.

D = Not classifiable as to human carcinogenicity.

E = Evidence of noncarcinogenicity in humans.

<General Materials (GM) - References, Annotations, or Tables>

HISTORICAL NOTE

Adopted by emergency action effective March 29, 1996, pursuant to A.R.S. § 41-1026 and Laws 1995, Ch. 232, § 5; in effect until permanent rules are adopted and in place no later than August 1, 1997, pursuant to A.R.S. § 49-152 and Laws 1995, Ch. 232, § 5 (Supp. 96-1). Historical note revised to clarify exemptions of emergency adoption (Supp. 97-1). Interim emergency appendix reinstated at the request of the Department; historical note from Supp. 97-3 stating emergency expired removed for clarity. Appendix A adopted permanently effective December 4, 1997, replacing emergency appendix (Supp. 97-4).

AZ ADC foll. R18-7-209, App. A.
END OF DOCUMENT